Monthly Report: Surveillance Project SB4008 IFNg tests for bovine tuberculosis

(TC0651 and TC0751)

Number 92

Report Period 1st - 30th April 2014

[redacted]
AHVLA Weybridge

Issued 15 May 2014

Operational notes on terminology, definitions, re-test and re-samples test outcomes:

• “Samples” refers to an individual tube of blood taken from an individual animal which is subsequently submitted for testing. It is generally assumed that the number of samples and the number of animals are analogous as any duplicate sample blood tube from the same animal will not be tested. However, minor discrepancies may occur where the same animal is tested more than once due to a request for a resample or the animal is tested twice under different categories (for example, as a PAR-RAPID and then as part of a PAR-HERD-S).

• “Submissions” refers to an individual batch or set of samples received for testing. Submissions may comprise 1 or more samples (for example, if an entire herd is being tested it is usually sent as 1 submission). It is generally assumed that the number of submissions and the number of herds are analogous.

• Retests are samples where the first ELISA assay fails and the same sample is retested on a new ELISA plate. Each sample can be retested only once. A retest is not a reportable test outcome.

• Resamples are where a sample has been retested and failed a second time, so that the lab requests a new sample. This is a reportable test outcome.

• Rejects are samples that are not tested by the lab for one of the following reasons: blood collected into wrong type of vacutainer, samples that have not been maintained at the appropriate temperature range (22±5C), unlabelled samples, broken or cracked tubes, blood that is extensively clotted (small clots are OK), samples received after 4pm on the day after sample collection. Such samples are reported separately in the tables and in figure 5.

• POS (pokeweed mitogen) is a sample positive control reagent which provides a measure of the quality/viability of the blood sample. A POS fail (< 0.45 optical density reading) may indicate compromised blood quality as a result of collection/transportation conditions or due the animal having an unusually low/suppressed cellular immune response.

• NEG (no-antigen control) is a sample negative control which provides a measure of the background antigen-independent IFN- responses. A NEG fail (> 0.3 optical density reading) may indicate a laboratory procedures problem (normally resolved during re-test) or that an animal has unusually high background levels of IFN-g.

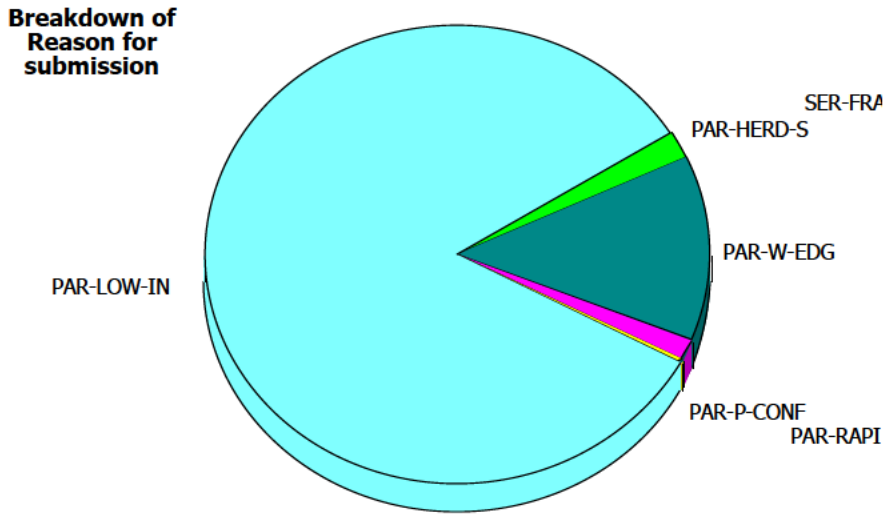
Test Criteria

Submission Reason	Explanation	Mandatory?
Possible Herd Slaughter	Parallel interferon-gamma blood testing of skin test negative cattle to inform whole or partial herd slaughters decisions	YES, if AHVLA are contemplating a herd slaughter
Persistent TB breakdowns (OTF status withdrawn)	Parallel blood testing of skin test-negative cattle in chronically infected herds that have failed to resolve by repeated short-interval skin testing and fulfill a minimum of biosecurity standards.	NO (AHVLA discretion)
Parallel - Low Incidence	Parallel blood testing to maximise the probability of removing all infected cattle in a new herd breakdown in an area of low TB incidence as soon as possible after confirmation of TB.	YES
Rapid Testing of twice IR's	Parallel blood testing of two-times IRs identified under the severe interpretation of the skin test used in Wales.	YES (Wales only)
Parallel Edge Area OTFW	Parallel blood testing to maximise the probability of removing all infected cattle in a new herd breakdown in the Edge Area (England) as soon as possible after confirmation of TB.	YES
Parallel Edge Area OTFS	Discretionary parallel blood testing to maximise the probability of removing all infected cattle in a new suspected herd infection in the Edge Area (England).	NO (AHVLA discretion)
Parallel Other	Other parallel blood testing not covered in any of the other scenarios	NO (AHVLA discretion)
'NSR' Herds	Modified serial blood testing of individual skin test reactors and/or IRs in unconfirmed TB breakdown herds in 2-, 3- or 4-yearly areas, to clarify their infection status where there is evidence of non-specific sensitisation to bovine tuberculin (the “non-specific reactor” procedure)	NO (AHVLA’s discretion)
Suspected Fraud	Modified serial blood test of suspected fraudulent reactors to the skin test (animals with abnormal skin swellings), in confirmed or unconfirmed TB incidents.	NO (AHVLA’s discretion to firm up or rule out any suspicion of fraud and support any investigations)

Table 1. Monthly Totals for April 2014

		Num samples April 2014	%	Total 2014	%	Total since 23/10/06	%
Submissions		**95**		**419**		**7856**	
Samples	**Total (%)**	**7200**	**100.00 %**	**28467**	**100.00 %**	**188120**	**100.00 %**
	England	5176	71.89 %	18619	65.41 %	120215	62.79 %
	Scotland	150	2.08 %	782	2.75 %	8776	4.30 %
	Wales	1874	26.03 %	9066	31.85 %	62294	32.91 %
Parallel Tests	PAR-HERD-S	128	1.78 %	598	2.10 %	8448	4.49 %
	PAR-LOW-IN	5996	83.28 %	23159	81.35 %	133919	71.19 %
	PAR-OTHER	0	0.00 %	2	0.01 %	2387	1.27 %
	PAR-P-CONF	27	0.38 %	3341	11.74 %	28971	15.40 %
	PAR-RAPID	105	1.46 %	400	1.41 %	11994	6.38 %
	PAR-W-EDG	938	13.03 %	938	3.30 %	938	0.50 %
	Total(% of all samples)	**7194**	99.92 %	**28438**	99.90 %	**186657**	99.22 %
Serial Tests	SER-FRAUD	6	0.08 %	29	0.10 %	1156	0.61 %
	SER-NSR	0	0.00 %			230	0.12 %
	SER-OTHER	0	0.00 %			77	0.04 %
	Total(% of all samples)	**6**	0.08 %	**29**	0.10 %	**1463**	0.78 %
	Total	**7200**	100.00 %	**28467**	100.00 %	**188120**	100.00 %
Retests	**Total (% of all samples)**	**501**	**6.96 %**	**2117**	**7.44 %**	**12873**	**6.84 %**
	England	384	5.33 %	1334	4.69 %	7653	**4.07 %**
	Scotland	10	0.14 %	59	0.21 %	683	**0.36 %**
	Wales	107	1.49 %	724	2.54 %	4537	**2.41 %**
Resamples	**Total (% of all samples)**	**412**	**5.72 %**	**1648**	**5.79 %**	**9050**	**4.81 %**
	England	321	**4.46 %**	1098	**3.86 %**	5423	2.88 %
	Scotland	10	**0.14 %**	35	**0.12 %**	439	0.23 %
	Wales	81	**1.13 %**	515	**1.81 %**	3188	1.69 %
Rejects	**Total (% of all samples)**	**21**	**0.29 %**	**648**	**2.28 %**	**4542**	**2.41 %**
	England	8	0.11 %	509	1.79 %	2867	1.52 %
	Scotland	7	0.10 %	57	0.20 %	306	0.16 %
	Wales	6	0.08 %	82	0.29 %	1369	0.73 %

Figure 1. Number of samples submitted in each category during April 2014



PAR-HERD-S	128	1.8 %
PAR-LOW-IN	5996	83.3 %
PAR-P-CONF	27	0.4 %
PAR-RAPID	105	1.5 %
PAR-W-EDG	938	13.0 %
SER-FRAUD	6	0.1 %
Total	**7200**	**100.00 %**

Figure 2. Number of samples submitted in each category by AHDO during April 2014

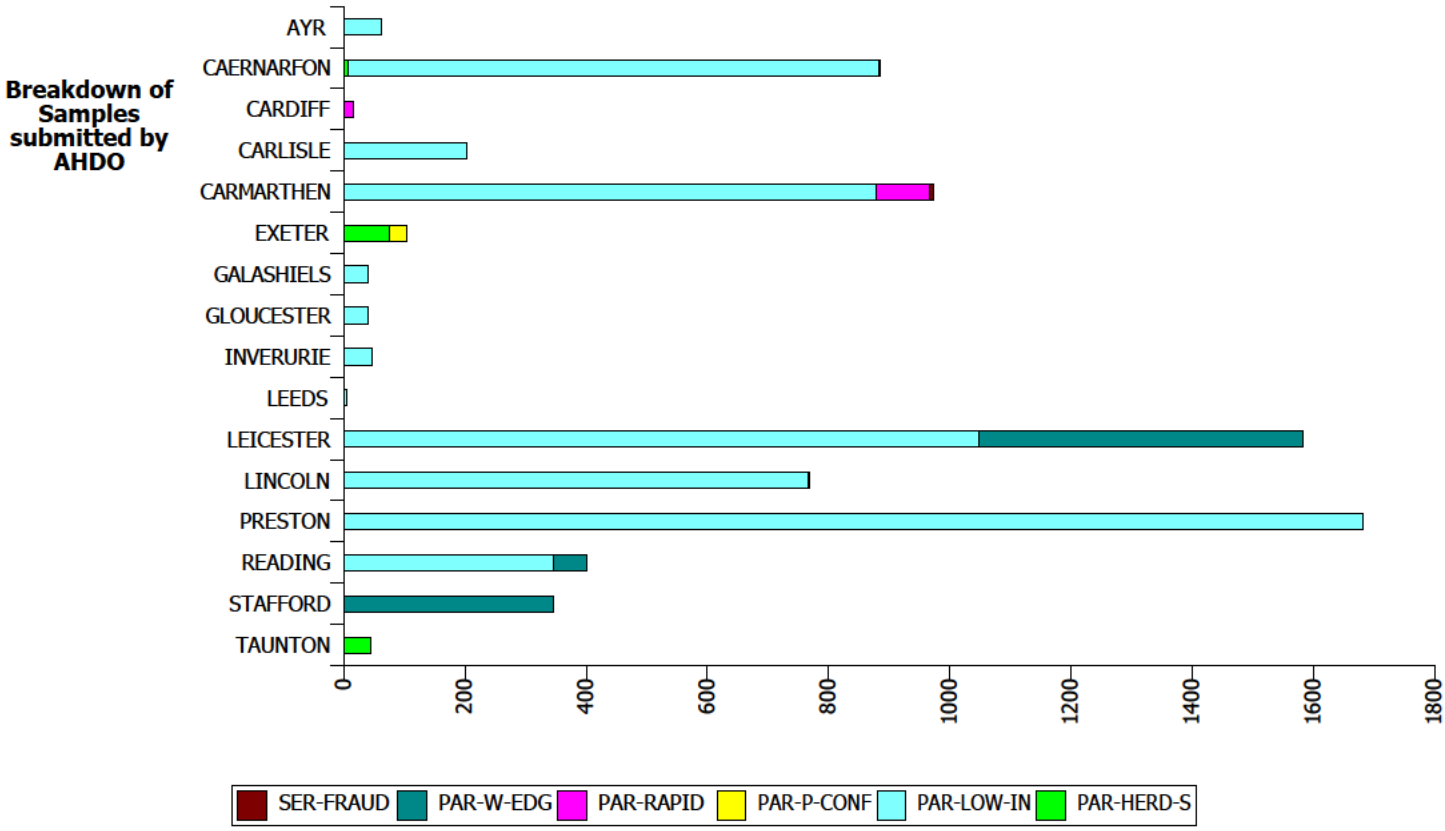


Figure 3. Number of samples submitted in each category by AHDO during 2014

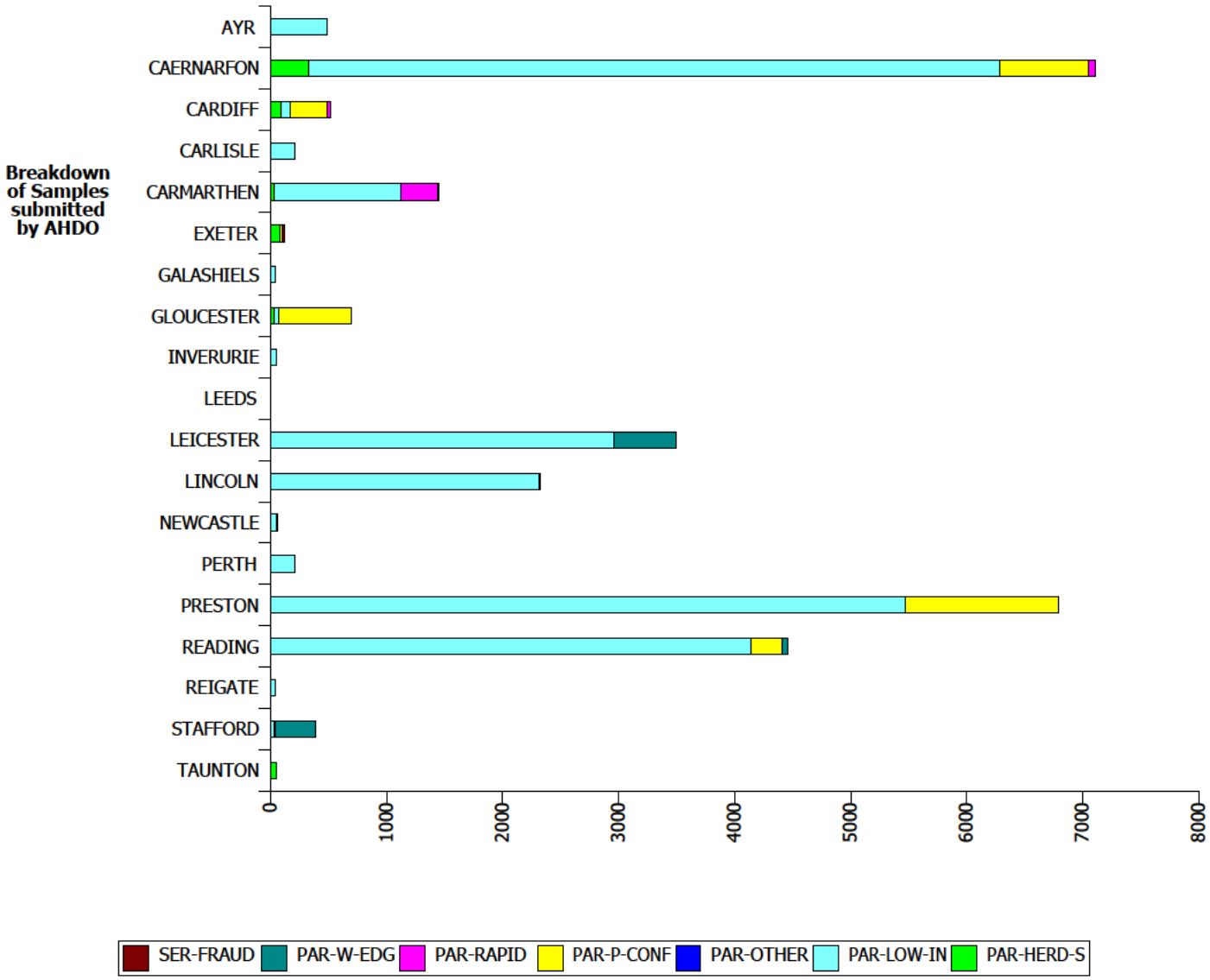


Table 2. Summary by AHDO for April 2014

Country	AHDO	Submission Reasons*	No submissions	Samples		Gamma Positive		Gamma Negatives		Retest*		Resample		Reject	
				n	% of total	n	%	n	%	n	%				
England	CARLISLE	PAR-LOW-IN	1	204	2.83 %	6	2.94 %	190	93.14 %	20	9.80 %	8	3.92 %	0	0.00 %
	EXETER	PAR-HERD-S	1	76	1.06 %	17	22.37 %	57	75.00 %	3	3.95 %	1	1.32 %	1	1.32 %
		PAR-P-CONF	1	27	0.38 %	0	0.00 %	25	92.59 %	2	7.41 %	2	7.41 %	0	0.00 %
	GLOUCESTER	PAR-LOW-IN	2	41	0.57 %	6	14.63 %	33	80.49 %	2	4.88 %	2	4.88 %	0	0.00 %
	LEEDS	PAR-LOW-IN	1	4	0.06 %	0	0.00 %	4	100.00 %	0	0.00 %	0	0.00 %	0	0.00 %
	LEICESTER	PAR-LOW-IN	8	1048	14.56 %	27	2.58 %	969	92.46 %	62	5.92 %	51	4.87 %	1	0.10 %
		PAR-W-EDG	2	536	7.44 %	32	5.97 %	492	91.79 %	15	2.80 %	11	2.05 %	1	0.19 %
	LINCOLN	PAR-LOW-IN	7	767	10.65 %	46	6.00 %	662	86.31 %	62	8.08 %	59	7.69 %	0	0.00 %
		PAR-W-EDG	1	2	0.03 %	0	0.00 %	2	100.00 %	0	0.00 %	0	0.00 %	0	0.00 %
	PRESTON	PAR-LOW-IN	16	1681	23.35 %	176	10.47 %	1361	80.96 %	166	9.88 %	142	8.45 %	2	0.12 %
	READING	PAR-LOW-IN	4	345	4.79 %	15	4.35 %	311	90.14 %	18	5.22 %	18	5.22 %	1	0.29 %
		PAR-W-EDG	1	55	0.76 %	3	5.45 %	50	90.91 %	3	5.45 %	2	3.64 %	0	0.00 %
	STAFFORD	PAR-W-EDG	3	345	4.79 %	20	5.80 %	300	86.96 %	27	7.83 %	23	6.67 %	2	0.58 %
	TAUNTON	PAR-HERD-S	1	45	0.63 %	11	24.44 %	32	71.11 %	4	8.89 %	2	4.44 %	0	0.00 %
Scotland	AYR	PAR-LOW-IN	3	63	0.88 %	1	1.59 %	54	85.71 %	8	12.70 %	8	12.70 %	0	0.00 %
	GALASHIELS	PAR-LOW-IN	2	41	0.57 %	6	14.63 %	34	82.93 %	1	2.44 %	1	2.44 %	0	0.00 %
	INVERURIE	PAR-LOW-IN	4	46	0.64 %	14	30.43 %	24	52.17 %	1	2.17 %	1	2.17 %	7	15.22 %
Wales	CAERNARFON	PAR-HERD-S	1	6	0.08 %	0	0.00 %	1	16.67 %	5	83.33 %	5	83.33 %	0	0.00 %
		PAR-LOW-IN	10	878	12.19 %	24	2.73 %	816	92.94 %	53	6.04 %	38	4.33 %	0	0.00 %
		PAR-RAPID	1	2	0.03 %	1	50.00 %	1	50.00 %	0	0.00 %	0	0.00 %	0	0.00 %
	CARDIFF	PAR-HERD-S	1	1	0.01 %	0	0.00 %	1	100.00 %	0	0.00 %	0	0.00 %	0	0.00 %
		PAR-RAPID	1	14	0.19 %	3	21.43 %	10	71.43 %	1	7.14 %	1	7.14 %	0	0.00 %
	CARMARTHEN	PAR-LOW-IN	4	878	12.19 %	29	3.30 %	810	92.26 %	44	5.01 %	33	3.76 %	6	0.68 %
		PAR-RAPID	18	89	1.24 %	39	43.82 %	46	51.69 %	4	4.49 %	4	4.49 %	0	0.00 %
		SER-FRAUD	1	6	0.08 %	1	16.67 %	5	83.33 %	0	0.00 %	0	0.00 %	0	0.00 %
		Sum:	**95**	**7200**		**477**		**6290**		**501**		**412**		**21**	

*For test criteria please refer to Operational notes.

* Sufficient plasma supernatant is collected and stored following the overnight culture stage of the assay such that if the sample fails any of the QC criteria, it is possible for the laboratory to 're-test' the original sample. Depending on the outcome of a retest, a resample (if QC criteria fail to be met), a positive or a negative result will be reported. Therefore, the total number of samples = the sum of positive, negative, resample and reject samples only.

Table 3a. Summary of IFN Gamma results by country and protocol April 2014

Country	Protocol	No submissions	Samples		Positive		Negatives		Retest*		Resample		Reject	
			n	% of total	n	%	n	%	n	%	n	%	n	%
England	Parallel	49	5176	100.0%	359	6.9%	4488	86.7%	384	7.4%	321	6.2%	8	0.2%
	Serial	0	0	0.0 %	0	0.0 %	0	0.0 %	0	0.0 %	0	0.0 %	0	0.0 %
	Total	49	5176	100.0%	359	6.9%	4488	86.7%	384	7.4%	321	6.2%	8	0.2%
Scotland	Parallel	9	150	100.0%	21	14.0%	112	74.7%	10	6.7%	10	6.7%	7	4.7%
	Serial	0	0	0.0 %	0	0.0 %	0	0.0 %	0	0.0 %	0	0.0 %	0	0.0 %
	Total	9	150	100.0%	21	14.0%	112	74.7%	10	6.7%	10	6.7%	7	4.7%
Wales	Parallel	36	1868	99.7%	96	5.1%	1685	90.2%	107	5.7%	81	4.3%	6	0.3%
	Serial	1	6	0.3%	1	16.7%	5	83.3%	0	0.0 %	0	0.0 %	0	0.0 %
	Total	37	1874	100.0%	97	5.2%	1690	90.2%	107	5.7%	81	4.3%	6	0.3%
GB	Parallel	94	7194	99.9%	476	6.6%	6285	87.4%	501	7.0%	412	5.7%	21	0.3%
	Serial	1	6	0.1%	1	16.7%	5	83.3%	0	0.0 %	0	0.0 %	0	0.0 %
	Total	95	7200	100.0%	477	6.6%	6290	87.4%	501	7.0%	412	5.7%	21	0.3%

* Sufficient plasma supernatant is collected and stored following the overnight culture stage of the assay such that if the sample fails any of the QC criteria, it is possible for the laboratory to 're-test' the original sample. Depending on the outcome of a retest, a resample (if QC criteria fail to be met), a positive or a negative result will be reported. Therefore, the total number of samples = the sum of positive, negative, resample and reject samples only.

Table 3b. Summary of IFN Gamma results by country and protocol (Total 2014)

Country	Protocol	No submissions	Samples		Positive		Negatives		Retest*		Resample		Reject	
			n	% of total	n	%	n	%	n	%	n	%	n	%
England	Parallel	177	18596	99.9%	1171	6.3%	15828	85.1%	1334	7.2%	1098	5.9%	499	2.7%
	Serial	4	23	0.1%	0	0.0 %	13	56.5%	0	0.0 %	0	0.0 %	10	43.5%
	Total	181	18619	100.0%	1171	6.3%	15841	85.1%	1334	7.2%	1098	5.9%	509	2.7%
Scotland	Parallel	20	782	100.0%	62	7.9%	628	80.3%	59	7.5%	35	4.5%	57	7.3%
	Serial	0	0	0.0 %	0	0.0 %	0	0.0 %	0	0.0 %	0	0.0 %	0	0.0 %
	Total	20	782	100.0%	62	7.9%	628	80.3%	59	7.5%	35	4.5%	57	7.3%
Wales	Parallel	217	9060	99.9%	702	7.7%	7761	85.7%	724	8.0%	515	5.7%	82	0.9%
	Serial	1	6	0.1%	1	16.7%	5	83.3%	0	0.0 %	0	0.0 %	0	0.0 %
	Total	218	9066	100.0%	703	7.8%	7766	85.7%	724	8.0%	515	5.7%	82	0.9%
GB	Parallel	414	28438	99.9%	1935	6.8%	24217	85.2%	2117	7.4%	1648	5.8%	638	2.2%
	Serial	5	29	0.1%	1	3.4%	18	62.1%	0	0.0 %	0	0.0 %	10	34.5%
	Total	419	28467	100.0%	1936	6.8%	24235	85.1%	2117	7.4%	1648	5.8%	648	2.3%

* Sufficient plasma supernatant is collected and stored following the overnight culture stage of the assay such that if the sample fails any of the QC criteria, it is poss ble for the laboratory to 're-test' the original sample. Depending on the outcome of a retest, a resample (if QC criteria fail to be met), a positive or a negative result will be reported. Therefore, the total number of samples = the sum of positive, negative, resample and reject samples only.

Table 3c. Summary of IFN Gamma results by country and protocol (Total since test roll out)

Country	Protocol	No submissions	Samples		Positive		Negatives		Retest*		Resample		Reject	
			n	% of total	n	%	n	%	n	%	n	%	n	%
England	Parallel	3487	117365	99.4%	7334	6.2%	101811	86.7%	7617	6.5%	5378	4.6%	2844	2.4%
	Serial	65	749	0.6%	18	2.4%	663	88.5%	36	4.8%	45	6.0%	23	3.1%
	Total	3552	118114	100.0%	7352	6.2%	102474	86.8%	7653	6.5%	5423	4.6%	2867	2.4%
Scotland	Parallel	115	8070	99.8%	422	5.2%	6904	85.6%	681	8.4%	438	5.4%	306	3.8%
	Serial	5	20	0.2%	0	0.0 %	19	95.0%	2	10.0%	1	5.0%	0	0.0 %
	Total	120	8090	100.0%	422	5.2%	6923	85.6%	683	8.4%	439	5.4%	306	3.8%
Wales	Parallel	4147	61222	98.9%	6472	10.6%	50253	82.1%	4443	7.3%	3139	5.1%	1356	2.2%
	Serial	37	694	1.1%	18	2.6%	614	88.5%	94	13.5%	49	7.1%	13	1.9%
	Total	4184	61916	100.0%	6490	10.5%	50867	82.2%	4537	7.3%	3188	5.1%	1369	2.2%
GB	Parallel	7749	186657	99.2%	14228	7.6%	158968	85.2%	12741	6.8%	8955	4.8%	4506	2.4%
	Serial	107	1463	0.8%	36	2.5%	1296	88.6%	132	9.0%	95	6.5%	36	2.5%
	Total	7856	188120	100.0%	14264	7.6%	160264	85.2%	12873	6.8%	9050	4.8%	4542	2.4%

* Sufficient plasma supernatant is collected and stored following the overnight culture stage of the assay such that if the sample fails any of the QC criteria, it is poss ble for the laboratory to 're-test' the original sample. Depending on the outcome of a retest, a resample (if QC criteria fail to be met), a positive or a negative result will be reported. Therefore, the total number of samples = the sum of positive, negative, resample and reject samples only.

Table 4a. Summaryof IFN Gamma results by submission reason (April 2014)

Submission Reason (full)	No submissions	Samples		Gamma Positive		Gamma Negatives		Retest		Resample		Reject	
		n	% of total	n	%	n	%	n	%	n	%	n	%
Possible Herd Slaughter	4	128	1.8%	28	21.9%	91	71.1%	12	9.4 %	8	6.3 %	1	0.8 %
Persistent TB breakdowns (OTFW)	1	27	0.4%	0	0.0 %	25	92.6%	2	7.4 %	2	7.4 %	0	
Parallel - Low Incidence	62	5996	83.3%	350	5.8%	5268	87.9%	437	7.3 %	361	6.0 %	17	0.3 %
Rapid Testing of twice IR's	20	105	1.5%	43	41.0%	57	54.3%	5	4.8 %	5	4.8 %	0	
Parallel - OTFW in Edge Area	7	938	13.0%	55	5.9%	844	90.0%	45	4.8 %	36	3.8 %	3	0.3 %
Suspected Fraud	1	6	0.1%	1	16.7%	5	83.3%	0		0		0	
	95	**7200**	100.0%	**477**	6.6%	**6290**	87.4%	**501**	7.0 %	**412**	5.7 %	**21**	0.3 %

Table 4b. Summaryof IFN Gamma results by submission reason (Total 2014)

Submission Reason (full)	No submissions	Samples		Gamma Positive		Gamma Negatives		Retest		Resample		Reject	
		n	% of total	n	%	n	%	n	%	n	%	n	%
Possible Herd Slaughter	25	598	2.1%	133	22.2%	406	67.9%	73	12.2 %	47	7.9 %	12	2.0 %
Persistent TB breakdowns (OTFW)	23	3341	11.7%	354	10.6%	2736	81.9%	282	8.4 %	242	7.2 %	9	0.3 %
Parallel - Low Incidence	245	23159	81.4%	1231	5.3%	20024	86.5%	1691	7.3 %	1303	5.6 %	601	2.6 %
Rapid Testing of twice IR's	113	400	1.4%	162	40.5%	205	51.2%	26	6.5 %	20	5.0 %	13	3.3 %
Parallel - OTFW in Edge Area	7	938	3.3%	55	5.9%	844	90.0%	45	4.8 %	36	3.8 %	3	0.3 %
Parallel Other	1	2	0.0%	0	0.0 %	2	100.0%	0		0		0	
Suspected Fraud	5	29	0.1%	1	3.4%	18	62.1%	0		0		10	34.5 %
	419	**28467**	100.0%	**1936**	6.8%	**24235**	85.1%	**2117**	7.4 %	**1648**	5.8 %	**648**	2.3 %

Table 4c. Summaryof IFN Gamma results by submission reason (Total since rollout)

Submission Reason*	No submissions	Samples tested		Gamma Positive		Gamma Negatives		Retest		Resample		Reject	
		n	% of total	n	%	n	%	n	%	n	%	n	%
Possible Herd Slaughter	225	8448	4.5%	1079	12.8%	6588	78.0%	732	8.66 %	555	6.57 %	225	2.66 %
Persistent TB breakdowns (OTFW)	375	28971	15.4%	2879	9.9%	24064	83.1%	2163	7.47 %	1501	5.18 %	528	1.82 %
Parallel - Low Incidence	1387	133919	71.2%	4727	3.5%	119519	89.2%	8738	6.52 %	6139	4.58 %	3534	2.64 %
Rapid Testing of twice IR's	5675	11994	6.4%	5241	43.7%	6019	50.2%	818	6.82 %	550	4.59 %	184	1.53 %
Parallel - OTFW in Edge Area	7	938	0.5%	55	5.9%	844	90.0%	45	4.80 %	36	3.84 %	3	0.32 %
Parallel Other	80	2387	1.3%	247	10.3%	1934	81.0%	245	10.26 %	174	7.29 %	32	1.34 %
'NSR' Herds	28	230	0.1%	9	3.9%	209	90.9%	13	5.65 %	12	5.22 %	0	0.00 %
Suspected Fraud	71	1156	0.6%	26	2.2%	1042	90.1%	117	10.12 %	65	5.62 %	23	1.99 %
Serial Other	8	77	0.0%	1	1.3%	45	58.4%	2	2.60 %	18	23.38 %	13	16.88 %
	7856	**188120**		**14264**		**160264**		**12873**		**9050**		**4542**	

*For test criteria please refer to Operational notes.

Table 5a. Summary of PM and culture results for IFNg positive animals.

Year	Month	Herds sampled	Samples tested	Herds with positives	IFNg+ samples	Wrong Eartags	No PM No Cult	No PM Cult Pend	No PM Cult Neg	No PM Cult Mb	No PM Cult Other	VL No Cult	VL Cult Pend	VL Cult Neg	VL Cult Mb	VL Cult Other	NVL No Cult	NVL Cult Pend	NVL Cult Neg	NVL Cult Mb	NVL Cult Other
2013	May	87	3886	50	170	0	1	0	0	0	1	11	0	0	3	0	110	0	43	1	1
	June	73	3282	49	124	1	0	0	0	0	0	8	0	0	5	1	90	0	19	0	0
	July	87	3829	42	117	1	2	0	0	0	0	4	0	0	1	0	54	0	53	1	0
	August	78	3197	43	173	3	0	0	0	0	0	21	0	0	2	0	119	0	28	0	0
	September	80	3015	46	152	0	3	0	0	0	3	9	0	1	3	0	54	6	72	1	3
	October	120	4947	58	198	2	4	0	0	0	1	6	0	0	0	0	127	0	58	0	1
	November	65	3647	37	141	3	3	0	0	0	3	7	0	0	7	0	79	1	38	0	3
	December	70	4473	46	227	15	0	0	0	0	0	34	0	0	2	0	145	2	28	0	0
2014	January	102	7192	75	616	5	7	0	0	0	4	93	0	0	2	1	398	29	60	0	4
	February	100	7276	71	438	2	14	0	0	0	0	48	1	0	0	0	333	39	0	0	0
	March	122	6799	66	405	25	152	0	0	0	0	11	6	0	0	0	130	48	0	0	0
	April	95	7200	67	477	419	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Total since Test Rollout		8877	261646	5323	19500	1019	614	0	93	13	0	1465	7	101	622	3	10437	134	4672	74	59

Table 5b. Summary of culture results for IFNg positive animals.

Month	Herds sampled	Samples tested	Herds with positives	IFNg+ samples	VL No Cult	VL Cult Pend	VL Cult Neg	VL Cult Mb	VL Cult Other	NVL No Cult	NVL Cult Pend	NVL Cult Neg	NVL Cult Mb	NVL Cult Other
England	4299	172864	2740	11417	799	3	73	465	3	5586	86	2945	56	46
Scotland	302	21394	183	1178	136	0	5	13	0	745	7	92	1	1
Wales	4276	67388	2400	6905	530	4	23	144	0	4106	41	1635	17	12
Total since Test Rollout	8877	261646	5323	19500	1465	7	101	622	3	10437	134	4672	74	59

Key: NoPM= no PME performed/recorded on Vet Net.
No Cult=M. bovis culture not performed, CultPend= M. bovis culture pending, CultNeg= M. bovis culture negative, CultMtb= M. bovis culture positive, CultOther= Organism other than M. bovis cultured.

Figure 4a. Number of herds sampled for IFNg and numbers of herds with any positive IFNg results.

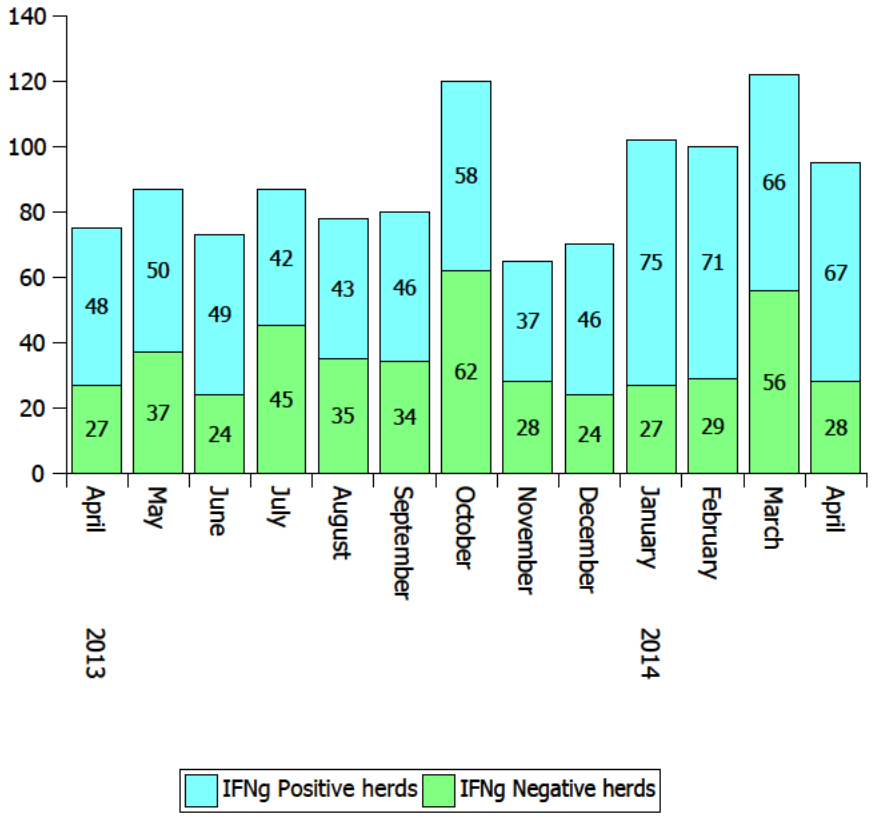
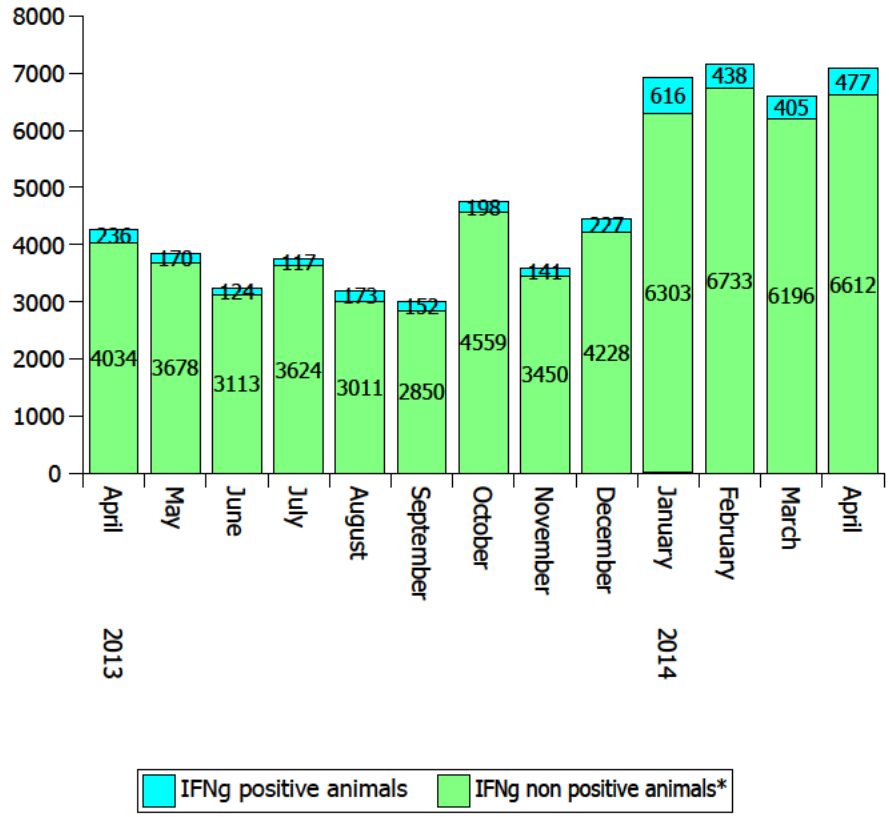
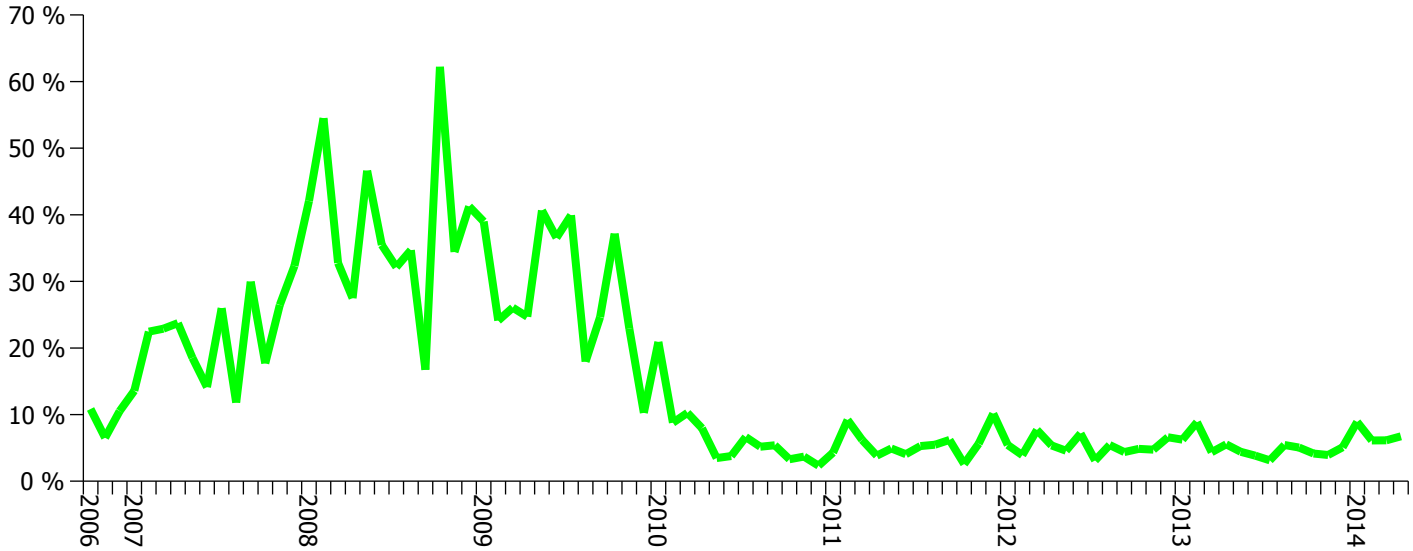


Figure 4b. Number of animals sampled for IFNg and numbers of animals with positive IFNg results.



*Includes all animals with IFNg test negative, resample and reject outcomes

Figure 4c. Percentage of animals tested with IFNg giving a positive response



From Oct 2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
2006										11 %	7 %	11 %	**8 %**
2007	14 %	22 %	23 %	24 %	19 %	14 %	26 %	12 %	30 %	18 %	26 %	32 %	**21 %**
2008	42 %	55 %	33 %	27 %	47 %	35 %	32 %	35 %	17 %	62 %	34 %	41 %	**35 %**
2009	39 %	24 %	26 %	25 %	41 %	37 %	40 %	18 %	25 %	37 %	23 %	10 %	**29 %**
2010	21 %	9 %	10 %	8 %	3 %	4 %	7 %	5 %	5 %	3 %	4 %	2 %	**5 %**
2011	4 %	9 %	6 %	4 %	5 %	4 %	5 %	5 %	6 %	3 %	6 %	10 %	**5 %**
2012	5 %	4 %	8 %	5 %	5 %	7 %	3 %	5 %	4 %	5 %	5 %	7 %	**6 %**
2013	6 %	9 %	4 %	6 %	4 %	4 %	3 %	5 %	5 %	4 %	4 %	5 %	**5 %**
2014	9 %	6 %	6 %	7 %									**7 %**

Figure 5. Rates of resamples including the fail rates broken down for positive (POS) and negative (NEG) controls.

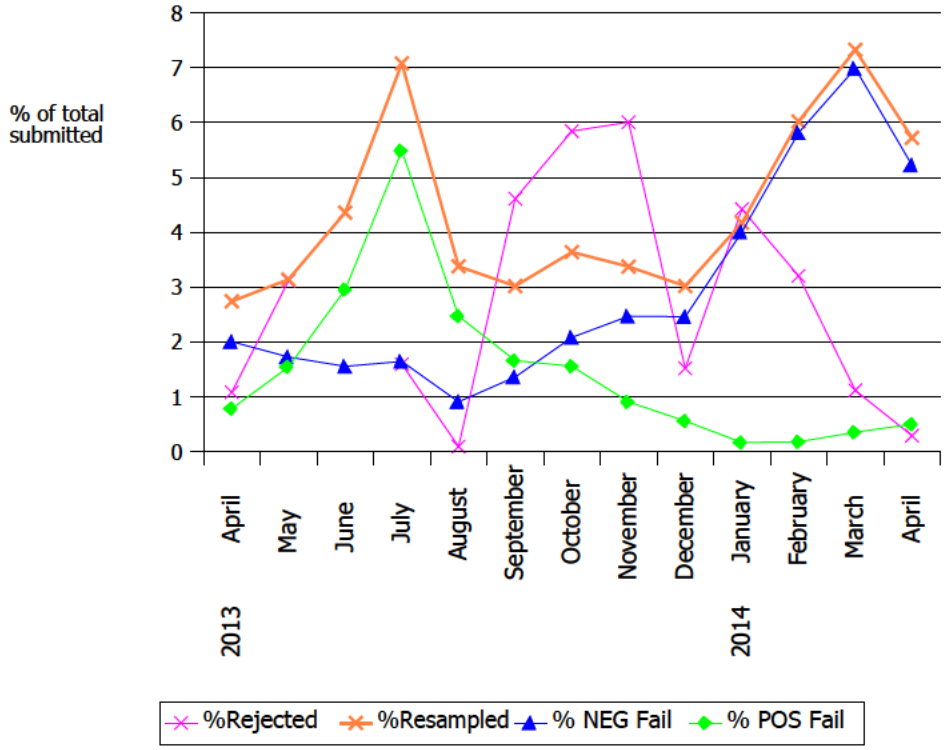


Figure 6. Proportion of samples retested, or requiring a resample, during April 2014 (% submission per AHDO)

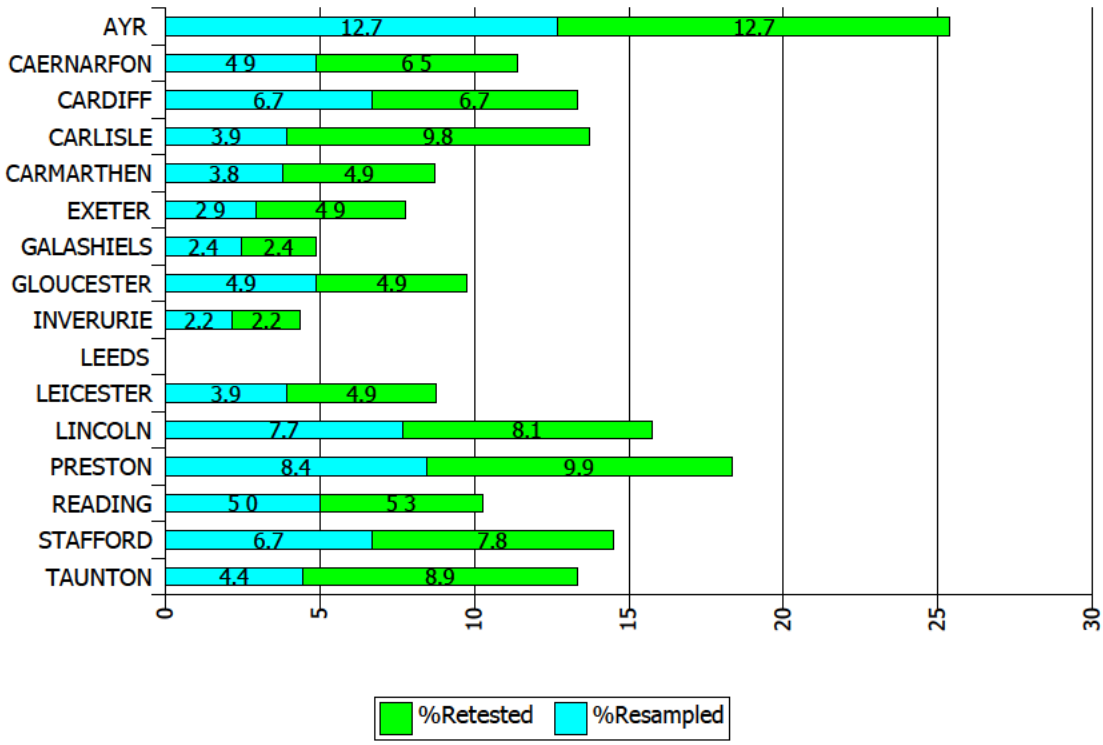


Table 6a: Number of animals and submissions tested in April 2014

Country	No. animals	No of IFHg+ animals	% Positive animals	No. samples	No of IFHg+ samples	% Positive samples
England	5088	359	7.1%	5176	359	6.9%
Scotland	149	21	14.1%	150	21	14.0%
Wales	1852	97	5.2%	1874	97	5.2%
GB	7089	477	6.7%	7200	477	6.6%

Table 6b: Number of animals and submissions tested in 2014

Country	No. animals	No of IFHg+ animals	% Positive animals	No. samples	No of IFHg+ samples	% Positive samples
England	17268	1170	6.8%	18619	1171	6.3%
Scotland	710	62	8.7%	782	62	7.9%
Wales	8616	703	8.2%	9066	703	7.8%
GB	26594	1935	7.3%	28467	1936	6.8%

Table 6c: Number of animals and submissions tested since test rollout

Country	No. animals	No of IFHg+ animals	% Positive animals	No. samples	No of IFHg+ samples	% Positive samples
England	103845	7348	7.1%	118114	7352	6.2%
Scotland	6996	422	6.0%	8090	422	5.2%
Wales	51797	6488	12.5%	61916	6490	10.5%
GB	162583	14258	8.8%	188120	14264	7.6%