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172-TEST

## **PROFICIENCY TESTING 2010**

*Paratuberculosis (PTU)*

*Detection of antibodies in serum and milk by  
Enzyme Linked Immunosorbent Assay (ELISA)*

**OPERATIONAL UNIT  
COORDINATION OF VETERINARY DIAGNOSIS  
EPIDEMIOLOGY AND RISK ASSESSMENT  
(CVD-ERA)**

**DATE BEGIN PT: 6 DECEMBER 2010**

**DATE REPORT: 3 JANUARY 2011**

## I. Introduction

Details relevant to the proficiency test are available in the Procedure PRO/2.5/01 'Beheer van de proficiency testen/Gestion des essais d'aptitude'.

## II. Aim

This proficiency test, focusing on the detection of PTU-specific antibodies in serum and/or milk by ELISA, aims to assess the analytical accuracy of tests conducted by participants.

## III. Materials and methods

### III.1. Conduct of diagnostic tests

In the framework of this proficiency test, predefined reference serum samples and/or reference milk samples must be tested by means of an ELISA test. The procedures for the ELISA tests must be fully described in the SOPs of the participating laboratories.

### III.2. Reference samples

#### III.2.1. PTU-specific antibodies in serum

Replicates of five reference serum samples either free from detectable PTU-specific antibodies ( $n = 3$ ; coded 'PT2010PTUSERNS1', 'PT2010PTUSERNS2', and 'PT2010PTUSERNS3') or containing detectable PTU-specific antibodies ( $n = 2$ ; coded 'PT2010PTUSERPS1' and 'PT2010PTUSERPS3') were used. In addition, replicates of a cut-off reference serum sample ( $n = 1$ ; coded 'PT2010PTUSERPS2') were used. In total 120 aliquots prepared by the PTU reference laboratory of the Veterinary and Agrochemical Research Center (CODA-CERVA) were distributed to the participating laboratories.

For each of the five reference serum samples, either free from detectable PTU-specific antibodies or containing detectable PTU-specific antibodies, a certificate containing the assigned value (status of the sample = 'golden standard') was made. The assigned value was obtained by testing each reference serum sample at least 10 times and for which each time the same qualitative result was obtained.

The cut-off reference serum sample was tested at least 10 times by the PTU reference laboratory of the CODA-CERVA and found each time positive. However, 3 results were really close to the cut-off value. Therefore, this sample was considered as a cut-off sample and both positive or non-interpretable results were allowed in this proficiency test.

Consequently, these reference serum samples were considered as reliable samples to evaluate the ability to identify the absence or presence of PTU-specific antibodies in bovine serum.

Each reference serum sample was also tested once after the proficiency test (post-verification) to confirm the stability and the status of the reference serum samples.

#### III.2.2. PTU-specific antibodies in milk

Replicates of six reference milk samples either free from detectable PTU-specific antibodies ( $n = 4$ ; coded 'PT2010PTUSERNM1', 'PT2010PTUSERNM2', 'PT2010PTUSERNM3', and 'PT2010PTUSERNM4') or containing detectable PTU-specific antibodies ( $n = 2$ ; coded 'PT2010PTUSERPM1', and 'PT2010PTUSERPM2') were used. In total 120 aliquots prepared by the PTU reference laboratory of the Veterinary and Agrochemical Research Center (CODA-CERVA) were distributed to the participating laboratories. For each reference milk sample a certificate containing the assigned value (status of the sample = 'golden standard') was made. The assigned value was obtained by testing each reference milk sample at least 10 times and for which each time the same qualitative result was obtained. Consequently,

these reference milk samples were considered as reliable samples to evaluate the ability to identify the absence or presence of PTU-specific antibodies in bovine milk.  
Each reference milk sample was also tested once after the proficiency test (post-verification) to confirm the stability and the status of the reference milk samples.

### **III.3. Classification of results, level of agreement and threshold for qualification**

#### *III.3.1. Classification of results*

Results provided by the participating laboratories are categorized as *success* (positive result when the reference sample is truly positive, negative result when the reference sample is truly negative, non-interpretable result when the reference sample is truly non-interpretable, positive or non-interpretable result when the reference sample is a cut-off sample) or *failure* (positive result when the reference sample is truly negative or non-interpretable, negative result when the reference sample is truly positive or non-interpretable, non-interpretable result when the reference sample is truly negative or positive).

#### *III.3.2. Level of agreement*

The level of agreement achieved by a participating laboratory is expressed as the percentage of success for all 30 reference serum samples (aliquots) and/or for all 30 reference milk samples (aliquots) for PTU-specific antibodies carried out for this proficiency test.

#### *III.3.3. Threshold for qualification*

Following the procedure, a participating laboratory is only qualified if the level of agreement for all reference serum and/or milk samples is at least 90%.

## **IV. Results**

For confidentiality reasons, the participating laboratories are quoted anonymously and the concordance table is safely kept at the Operational Unit: CVD-ERA of the CODA-CERVA.

### **IV.1. Reference samples**

#### *IV.1.1. Allocation of reference serum samples to participating laboratories*

All participating laboratories were given:

- i. 15 aliquots of reference serum samples free from detectable PTU-specific antibodies: PT2010PTUSERNS1 samples (n = 5), PT2010PTUSERNS2 samples (n = 5) and PT2010PTUSERNS3 samples (n = 5);
- ii. 10 aliquots of reference serum samples containing detectable PTU-specific antibodies: PT2010PTUSERPS1 samples (n = 5) and PT2010PTUSERPS3 samples (n = 5),
- iii. 5 aliquots of a cut-off reference serum sample: PT2010PTUSERPS2 samples (n = 5).

#### IV.1.2. Allocation of reference milk samples to participating laboratories

All participating laboratories were given:

- i. 20 aliquots of reference milk samples free from detectable PTU-specific antibodies: PT2010PTUSERNM1 samples (n = 5), PT2010PTUSERNM2 samples (n = 5), PT2010PTUSERNM3 samples (n = 5) and PT2010PTUSERNM4 samples (n = 5);
- ii. 10 aliquots of reference milk samples containing detectable PTU-specific antibodies: PT2010PTUSERPM1 samples (n = 5) and PT2010PTUSERPM2 samples (n = 5).

#### IV.1.3. Transfer and start of the analyses

The 60 aliquots for LAB1 and LAB2 (30 serums and 30 milks) or 30 aliquots (serums or milks) for LAB3, LAB4, LAB5, and LAB6 were sent on 6 December 2010 to each of the six participating laboratories (240 aliquots in total). The laboratories acknowledged receipt of the samples on the same day. The analyses were carried out on 6 (LAB3), 7 (LAB1, LAB4 and LAB6), and 9 (LAB2 and LAB5) December 2010.

#### IV.2. Dates at which results were returned to the CVD-ERA

Results from participating laboratories have been received on 7 (LAB4), 9 (LAB1, LAB3, and LAB5), and 10 (LAB2 and LAB6) December 2010.

#### IV.3. Compliance with the procedure

All participating laboratories have provided a duly dated and signed copy of the results.

#### IV.4. Level of agreement

For the detection of PTU-specific antibodies in reference serum samples and for the detection of PTU-specific antibodies in reference milk samples all participating laboratories reached 100% of agreement (Table 1 and 2).

Box plots of the calculated data (% S/P) per sample and per participating laboratory are attached in Annex 1.

**Table 1.** Agreement between results generated by the participating laboratories (LABNR) and the status of reference serum samples. The purpose of the proficiency test is to detect PTU-specific antibodies in reference serum samples by an ELISA test.

Success while screening the samples (0 = Failure, 1 = Success)				
	LABNR			
	1 (N=30)	2 (N=30)	3 (N=30)	4 (N=30)
Variable	N (%)	N (%)	N (%)	N (%)
0	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
1	30 (100.0)	30 (100.0)	30 (100.0)	30 (100.0)



**Table 2.** Agreement between results generated by the participating laboratories (LABNR) and the status of reference milk samples. The purpose of the proficiency test is to detect PTU-specific antibodies in reference milk samples by an ELISA test.

Success while screening the samples (0 = Failure, 1 = Success)				
Variable	LABNR			
	1 (N=30)	2 (N=30)	5 (N=30)	6 (N=30)
	N (%)	N (%)	N (%)	N (%)
0	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
1	30 (100.0)	30 (100.0)	30 (100.0)	30 (100.0)

**IV.5. Variability among participating laboratories**

The responses of the four participating laboratories that provided their results for the reference serum samples are displayed in Table 3.

The responses of the four participating laboratories that provided their results for the reference milk samples are displayed in Table 4.



**Table 3.** The responses (RESULT) of the participating laboratories (LABNR) with the identification (SAMPLE) of the reference serum samples, the position (LABPOSIT) of the reference serum samples as placed in the block, and the results (STATUS) obtained by repeated screening by the PTU reference laboratory of the CODA-CERVA.

	LABNR	LABPOSIT	SAMPLE	STATUS	RESULT	SUCCESS
1	1	1	PT2010PTUSERNS1	NEG	NEG	1
2	1	2	PT2010PTUSERNS3	NEG	NEG	1
3	1	3	PT2010PTUSERPS1	POS	POS	1
4	1	4	PT2010PTUSERNS2	NEG	NEG	1
5	1	5	PT2010PTUSERPS2	POS	POS	1
6	1	6	PT2010PTUSERNS3	NEG	NEG	1
7	1	7	PT2010PTUSERNS1	NEG	NEG	1
8	1	8	PT2010PTUSERPS2	POS	POS	1
9	1	9	PT2010PTUSERPS1	POS	POS	1
10	1	10	PT2010PTUSERNS2	NEG	NEG	1
11	1	11	PT2010PTUSERPS2	POS	POS	1
12	1	12	PT2010PTUSERNS1	NEG	NEG	1
13	1	13	PT2010PTUSERPS2	POS	POS	1
14	1	14	PT2010PTUSERNS3	NEG	NEG	1
15	1	15	PT2010PTUSERPS3	POS	POS	1
16	1	16	PT2010PTUSERNS2	NEG	NEG	1
17	1	17	PT2010PTUSERPS1	POS	POS	1
18	1	18	PT2010PTUSERPS3	POS	POS	1
19	1	19	PT2010PTUSERNS1	NEG	NEG	1
20	1	20	PT2010PTUSERPS1	POS	POS	1
21	1	21	PT2010PTUSERPS3	POS	POS	1
22	1	22	PT2010PTUSERNS2	NEG	NEG	1
23	1	23	PT2010PTUSERPS3	POS	POS	1
24	1	24	PT2010PTUSERNS3	NEG	NEG	1
25	1	25	PT2010PTUSERPS3	POS	POS	1
26	1	26	PT2010PTUSERPS2	POS	POS	1
27	1	27	PT2010PTUSERNS2	NEG	NEG	1
28	1	28	PT2010PTUSERPS1	POS	POS	1
29	1	29	PT2010PTUSERNS3	NEG	NEG	1
30	1	30	PT2010PTUSERNS1	NEG	NEG	1



(CONTINUED)

	LABNR	LABPOSIT	SAMPLE	STATUS	RESULT	SUCCESS
31	2	1	PT2010PTUSERNS3	NEG	NEG	1
32	2	2	PT2010PTUSERNS1	NEG	NEG	1
33	2	3	PT2010PTUSERPS2	POS	POS	1
34	2	4	PT2010PTUSERPS1	POS	POS	1
35	2	5	PT2010PTUSERNS2	NEG	NEG	1
36	2	6	PT2010PTUSERPS2	POS	POS	1
37	2	7	PT2010PTUSERNS1	NEG	NEG	1
38	2	8	PT2010PTUSERPS2	POS	POS	1
39	2	9	PT2010PTUSERNS3	NEG	NEG	1
40	2	10	PT2010PTUSERPS3	POS	POS	1
41	2	11	PT2010PTUSERNS2	NEG	NEG	1
42	2	12	PT2010PTUSERPS1	POS	POS	1
43	2	13	PT2010PTUSERPS3	POS	POS	1
44	2	14	PT2010PTUSERNS1	NEG	NEG	1
45	2	15	PT2010PTUSERPS1	POS	POS	1
46	2	16	PT2010PTUSERPS3	POS	POS	1
47	2	17	PT2010PTUSERNS2	NEG	NEG	1
48	2	18	PT2010PTUSERPS3	POS	POS	1
49	2	19	PT2010PTUSERNS3	NEG	NEG	1
50	2	20	PT2010PTUSERPS3	POS	POS	1
51	2	21	PT2010PTUSERPS2	POS	POS	1
52	2	22	PT2010PTUSERNS2	NEG	NEG	1
53	2	23	PT2010PTUSERPS1	POS	POS	1
54	2	24	PT2010PTUSERNS3	NEG	NEG	1
55	2	25	PT2010PTUSERNS1	NEG	NEG	1
56	2	26	PT2010PTUSERNS1	NEG	NEG	1
57	2	27	PT2010PTUSERNS3	NEG	NEG	1
58	2	28	PT2010PTUSERPS1	POS	POS	1
59	2	29	PT2010PTUSERNS2	NEG	NEG	1
60	2	30	PT2010PTUSERPS2	POS	POS	1



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	LABNR	LABPOSIT	SAMPLE	STATUS	RESULT	SUCCESS
61	3	1	PT2010PTUSERPS2	POS	POS	1
62	3	2	PT2010PTUSERNS1	NEG	NEG	1
63	3	3	PT2010PTUSERPS2	POS	POS	1
64	3	4	PT2010PTUSERNS3	NEG	NEG	1
65	3	5	PT2010PTUSERPS3	POS	POS	1
66	3	6	PT2010PTUSERNS2	NEG	NEG	1
67	3	7	PT2010PTUSERPS1	POS	POS	1
68	3	8	PT2010PTUSERPS3	POS	POS	1
69	3	9	PT2010PTUSERNS1	NEG	NEG	1
70	3	10	PT2010PTUSERPS1	POS	POS	1
71	3	11	PT2010PTUSERPS3	POS	POS	1
72	3	12	PT2010PTUSERNS2	NEG	NEG	1
73	3	13	PT2010PTUSERPS3	POS	POS	1
74	3	14	PT2010PTUSERNS3	NEG	NEG	1
75	3	15	PT2010PTUSERPS3	POS	POS	1
76	3	16	PT2010PTUSERPS2	POS	POS	1
77	3	17	PT2010PTUSERNS2	NEG	NEG	1
78	3	18	PT2010PTUSERPS1	POS	POS	1
79	3	19	PT2010PTUSERNS3	NEG	NEG	1
80	3	20	PT2010PTUSERNS1	NEG	NEG	1
81	3	21	PT2010PTUSERNS1	NEG	NEG	1
82	3	22	PT2010PTUSERNS3	NEG	NEG	1
83	3	23	PT2010PTUSERPS1	POS	POS	1
84	3	24	PT2010PTUSERNS2	NEG	NEG	1
85	3	25	PT2010PTUSERPS2	POS	NI	1
86	3	26	PT2010PTUSERNS3	NEG	NEG	1
87	3	27	PT2010PTUSERNS1	NEG	NEG	1
88	3	28	PT2010PTUSERPS2	POS	POS	1
89	3	29	PT2010PTUSERPS1	POS	POS	1
90	3	30	PT2010PTUSERNS2	NEG	NEG	1



(CONTINUED)

	LABNR	LABPOSIT	SAMPLE	STATUS	RESULT	SUCCESS
91	4	1	PT2010PTUSERNS2	NEG	NEG	1
92	4	2	PT2010PTUSERPS1	POS	POS	1
93	4	3	PT2010PTUSERPS3	POS	POS	1
94	4	4	PT2010PTUSERNS1	NEG	NEG	1
95	4	5	PT2010PTUSERPS1	POS	POS	1
96	4	6	PT2010PTUSERPS3	POS	POS	1
97	4	7	PT2010PTUSERNS2	NEG	NEG	1
98	4	8	PT2010PTUSERPS3	POS	POS	1
99	4	9	PT2010PTUSERNS3	NEG	NEG	1
100	4	10	PT2010PTUSERPS3	POS	POS	1
101	4	11	PT2010PTUSERPS2	POS	POS	1
102	4	12	PT2010PTUSERNS2	NEG	NEG	1
103	4	13	PT2010PTUSERPS1	POS	POS	1
104	4	14	PT2010PTUSERNS3	NEG	NEG	1
105	4	15	PT2010PTUSERNS1	NEG	NEG	1
106	4	16	PT2010PTUSERNS1	NEG	NEG	1
107	4	17	PT2010PTUSERNS3	NEG	NEG	1
108	4	18	PT2010PTUSERPS1	POS	POS	1
109	4	19	PT2010PTUSERNS2	NEG	NEG	1
110	4	20	PT2010PTUSERPS2	POS	POS	1
111	4	21	PT2010PTUSERNS3	NEG	NEG	1
112	4	22	PT2010PTUSERNS1	NEG	NEG	1
113	4	23	PT2010PTUSERPS2	POS	POS	1
114	4	24	PT2010PTUSERPS1	POS	POS	1
115	4	25	PT2010PTUSERNS2	NEG	NEG	1
116	4	26	PT2010PTUSERPS2	POS	POS	1
117	4	27	PT2010PTUSERNS1	NEG	NEG	1
118	4	28	PT2010PTUSERPS2	POS	POS	1
119	4	29	PT2010PTUSERNS3	NEG	NEG	1
120	4	30	PT2010PTUSERPS3	POS	POS	1

**Table 4.** The responses (RESULT) of the participating laboratories (LABNR) with the identification (SAMPLE) of the reference milk samples, the position (LABPOSIT) of the reference milk samples as placed in the block, and the results (STATUS) obtained by repeated screening by the PTU reference laboratory of the CODA-CERVA.

	LABNR	LABPOSIT	SAMPLE	STATUS	RESULT	SUCCESS
1	1	1	PT2010PTUSERNM1	NEG	NEG	1
2	1	2	PT2010PTUSERNM3	NEG	NEG	1
3	1	3	PT2010PTUSERNM4	NEG	NEG	1
4	1	4	PT2010PTUSERNM2	NEG	NEG	1
5	1	5	PT2010PTUSERNM4	NEG	NEG	1
6	1	6	PT2010PTUSERPM1	POS	POS	1
7	1	7	PT2010PTUSERNM3	NEG	NEG	1
8	1	8	PT2010PTUSERPM2	POS	POS	1
9	1	9	PT2010PTUSERNM1	NEG	NEG	1
10	1	10	PT2010PTUSERPM2	POS	POS	1
11	1	11	PT2010PTUSERNM2	NEG	NEG	1
12	1	12	PT2010PTUSERNM3	NEG	NEG	1
13	1	13	PT2010PTUSERNM4	NEG	NEG	1
14	1	14	PT2010PTUSERNM1	NEG	NEG	1
15	1	15	PT2010PTUSERPM1	POS	POS	1
16	1	16	PT2010PTUSERPM2	POS	POS	1
17	1	17	PT2010PTUSERNM2	NEG	NEG	1
18	1	18	PT2010PTUSERPM2	POS	POS	1
19	1	19	PT2010PTUSERNM3	NEG	NEG	1
20	1	20	PT2010PTUSERNM1	NEG	NEG	1
21	1	21	PT2010PTUSERPM1	POS	POS	1
22	1	22	PT2010PTUSERNM4	NEG	NEG	1
23	1	23	PT2010PTUSERNM2	NEG	NEG	1
24	1	24	PT2010PTUSERPM2	POS	POS	1
25	1	25	PT2010PTUSERNM3	NEG	NEG	1
26	1	26	PT2010PTUSERPM1	POS	POS	1
27	1	27	PT2010PTUSERNM1	NEG	NEG	1
28	1	28	PT2010PTUSERNM4	NEG	NEG	1
29	1	29	PT2010PTUSERPM1	POS	POS	1
30	1	30	PT2010PTUSERNM2	NEG	NEG	1



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	LABNR	LABPOSIT	SAMPLE	STATUS	RESULT	SUCCESS
31	2	1	PT2010PTUSERPM1	POS	POS	1
32	2	2	PT2010PTUSERNM3	NEG	NEG	1
33	2	3	PT2010PTUSERPM2	POS	POS	1
34	2	4	PT2010PTUSERNM1	NEG	NEG	1
35	2	5	PT2010PTUSERPM2	POS	POS	1
36	2	6	PT2010PTUSERNM2	NEG	NEG	1
37	2	7	PT2010PTUSERNM3	NEG	NEG	1
38	2	8	PT2010PTUSERNM4	NEG	NEG	1
39	2	9	PT2010PTUSERNM1	NEG	NEG	1
40	2	10	PT2010PTUSERPM1	POS	POS	1
41	2	11	PT2010PTUSERPM2	POS	POS	1
42	2	12	PT2010PTUSERNM2	NEG	NEG	1
43	2	13	PT2010PTUSERPM2	POS	POS	1
44	2	14	PT2010PTUSERNM3	NEG	NEG	1
45	2	15	PT2010PTUSERNM1	NEG	NEG	1
46	2	16	PT2010PTUSERPM1	POS	POS	1
47	2	17	PT2010PTUSERNM4	NEG	NEG	1
48	2	18	PT2010PTUSERNM2	NEG	NEG	1
49	2	19	PT2010PTUSERPM2	POS	POS	1
50	2	20	PT2010PTUSERNM3	NEG	NEG	1
51	2	21	PT2010PTUSERPM1	POS	POS	1
52	2	22	PT2010PTUSERNM1	NEG	NEG	1
53	2	23	PT2010PTUSERNM4	NEG	NEG	1
54	2	24	PT2010PTUSERPM1	POS	POS	1
55	2	25	PT2010PTUSERNM2	NEG	NEG	1
56	2	26	PT2010PTUSERNM1	NEG	NEG	1
57	2	27	PT2010PTUSERNM3	NEG	NEG	1
58	2	28	PT2010PTUSERNM4	NEG	NEG	1
59	2	29	PT2010PTUSERNM2	NEG	NEG	1
60	2	30	PT2010PTUSERNM4	NEG	NEG	1



(CONTINUED)

	LABNR	LABPOSIT	SAMPLE	STATUS	RESULT	SUCCESS
61	5	1	PT2010PTUSERNM2	NEG	NEG	1
62	5	2	PT2010PTUSERNM3	NEG	NEG	1
63	5	3	PT2010PTUSERNM4	NEG	NEG	1
64	5	4	PT2010PTUSERNM1	NEG	NEG	1
65	5	5	PT2010PTUSERPM1	POS	POS	1
66	5	6	PT2010PTUSERPM2	POS	POS	1
67	5	7	PT2010PTUSERNM2	NEG	NEG	1
68	5	8	PT2010PTUSERPM2	POS	POS	1
69	5	9	PT2010PTUSERNM3	NEG	NEG	1
70	5	10	PT2010PTUSERNM1	NEG	NEG	1
71	5	11	PT2010PTUSERPM1	POS	POS	1
72	5	12	PT2010PTUSERNM4	NEG	NEG	1
73	5	13	PT2010PTUSERNM2	NEG	NEG	1
74	5	14	PT2010PTUSERPM2	POS	POS	1
75	5	15	PT2010PTUSERNM3	NEG	NEG	1
76	5	16	PT2010PTUSERPM1	POS	POS	1
77	5	17	PT2010PTUSERNM1	NEG	NEG	1
78	5	18	PT2010PTUSERNM4	NEG	NEG	1
79	5	19	PT2010PTUSERPM1	POS	POS	1
80	5	20	PT2010PTUSERNM2	NEG	NEG	1
81	5	21	PT2010PTUSERNM1	NEG	NEG	1
82	5	22	PT2010PTUSERNM3	NEG	NEG	1
83	5	23	PT2010PTUSERNM4	NEG	NEG	1
84	5	24	PT2010PTUSERNM2	NEG	NEG	1
85	5	25	PT2010PTUSERNM4	NEG	NEG	1
86	5	26	PT2010PTUSERPM1	POS	POS	1
87	5	27	PT2010PTUSERNM3	NEG	NEG	1
88	5	28	PT2010PTUSERPM2	POS	POS	1
89	5	29	PT2010PTUSERNM1	NEG	NEG	1
90	5	30	PT2010PTUSERPM2	POS	POS	1



(CONTINUED)

	LABNR	LABPOSIT	SAMPLE	STATUS	RESULT	SUCCESS
91	6	1	PT2010PTUSERPM2	POS	POS	1
92	6	2	PT2010PTUSERNM2	NEG	NEG	1
93	6	3	PT2010PTUSERPM2	POS	POS	1
94	6	4	PT2010PTUSERNM3	NEG	NEG	1
95	6	5	PT2010PTUSERNM1	NEG	NEG	1
96	6	6	PT2010PTUSERPM1	POS	POS	1
97	6	7	PT2010PTUSERNM4	NEG	NEG	1
98	6	8	PT2010PTUSERNM2	NEG	NEG	1
99	6	9	PT2010PTUSERPM2	POS	POS	1
100	6	10	PT2010PTUSERNM3	NEG	NEG	1
101	6	11	PT2010PTUSERPM1	POS	POS	1
102	6	12	PT2010PTUSERNM1	NEG	NEG	1
103	6	13	PT2010PTUSERNM4	NEG	NEG	1
104	6	14	PT2010PTUSERPM1	POS	POS	1
105	6	15	PT2010PTUSERNM2	NEG	NEG	1
106	6	16	PT2010PTUSERNM1	NEG	NEG	1
107	6	17	PT2010PTUSERNM3	NEG	NEG	1
108	6	18	PT2010PTUSERNM4	NEG	NEG	1
109	6	19	PT2010PTUSERNM2	NEG	NEG	1
110	6	20	PT2010PTUSERNM4	NEG	NEG	1
111	6	21	PT2010PTUSERPM1	POS	POS	1
112	6	22	PT2010PTUSERNM3	NEG	NEG	1
113	6	23	PT2010PTUSERPM2	POS	POS	1
114	6	24	PT2010PTUSERNM1	NEG	NEG	1
115	6	25	PT2010PTUSERPM2	POS	POS	1
116	6	26	PT2010PTUSERNM2	NEG	NEG	1
117	6	27	PT2010PTUSERNM3	NEG	NEG	1
118	6	28	PT2010PTUSERNM4	NEG	NEG	1
119	6	29	PT2010PTUSERNM1	NEG	NEG	1
120	6	30	PT2010PTUSERPM1	POS	POS	1

## V. Discussion

The purpose of this proficiency test is to assess performances of participating laboratories when analyzing reference serum and/or milk samples of bovine origin for the detection of PTU-specific antibodies by ELISA.

For this proficiency test the participating laboratories used ELISA kits from different producers as well as different batches from the same producer.

For the detection of PTU-specific antibodies in serum samples, two different producers were used: IDVET batch 245 (LAB3 and LAB4) and Institut Pourquier batch 33 (LAB1) and batch 981 (LAB2). No difference in the qualitative response for the reference serum samples was observed for the four participating laboratories.

For the detection of PTU-specific antibodies in milk samples, two different producers were used: IDVET batch 203 (LAB6) and Institut Pourquier batch 33 (LAB1 and LAB5) and batch 981 (LAB2). No difference in the qualitative response for the reference milk samples was observed for the four participating laboratories.

Overall, all participating laboratories provided qualitative results that were in full agreement with the true status of the reference serum and/or milk samples even if ELISA kits from different producers and/or batches were used.

## VI. Conclusions

According to the procedure currently in force, the performances of a participating laboratory is satisfactory if at least 90% of the results provided by this laboratory are in agreement with the status of the reference serum and/or milk samples (Section III.3.3. of this Report). Consequently, all participating laboratories achieved a satisfactory performance.

Head CVD-ERA  
Yves Van der Stede



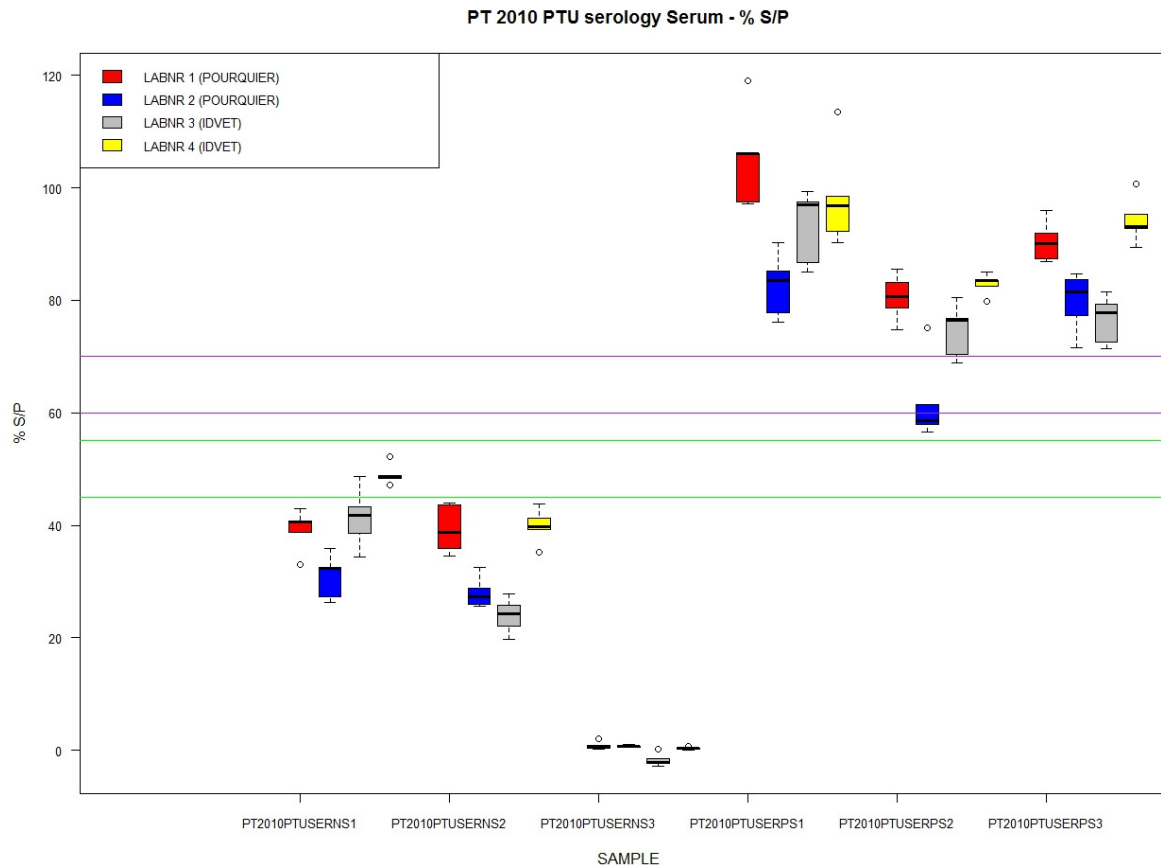
## Appendix:

### Name of the participating Laboratories

ARSIA (Ciney)  
ARSIA (Loncin)  
CODA-CERVA  
DGZ (Torhout)  
LMVE (Laboratoire de Médecine Vétérinaire de l'État)  
MCC

**ANNEX 1:**

**PTU ELISA serum** : Box plots of the % S/P per sample and per participating laboratory. Box plots represent the minimum value, the maximum value, the median, the lower and upper quartile and possible outliers per sample. Cutt off values indicated by green horizontal lines = 45% and 55% (Institut Pourquoi). Cutt off values indicated by purple horizontal lines = 60% and 70% (IDVET).

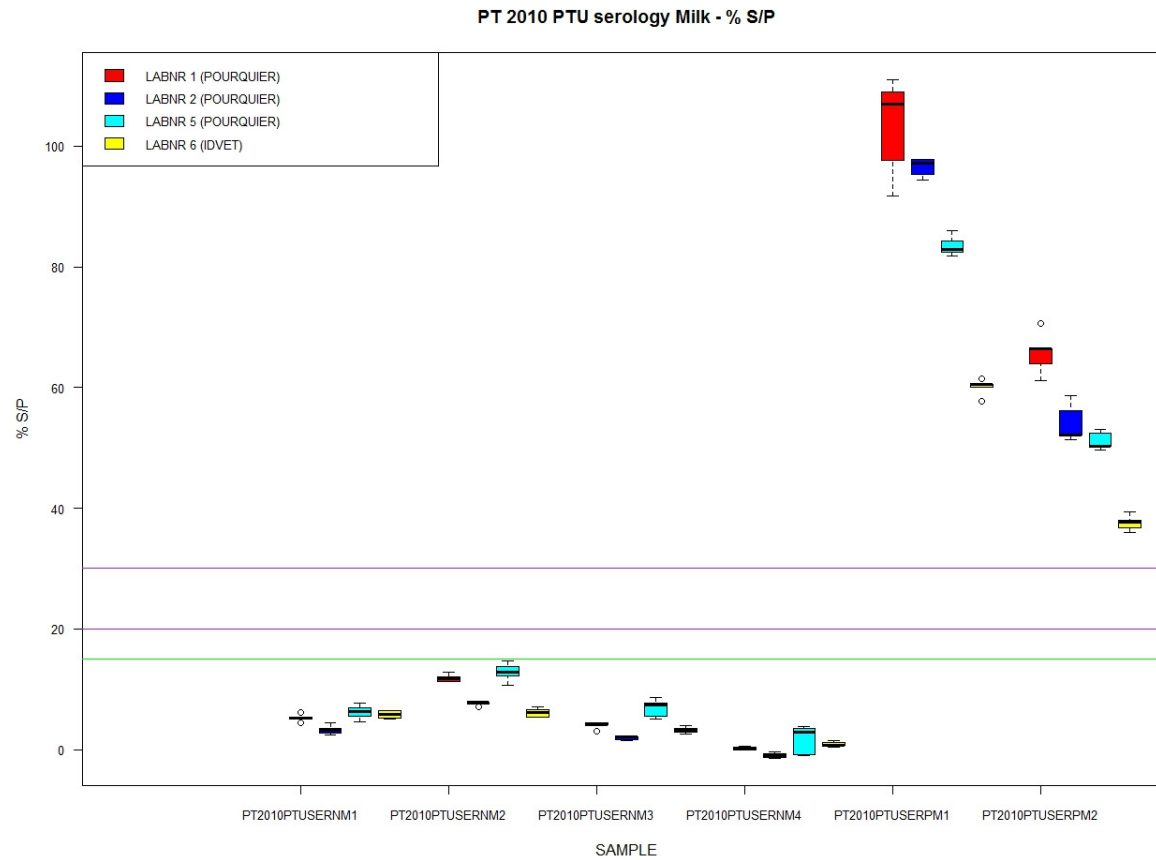


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**PTU ELISA milk** : Box plots of the % S/P per sample and per participating laboratory. Box plots represent the minimum value, the maximum value, the median, the lower and upper quartile and possible outliers per sample. Cutt off values indicated by green horizontal lines = 15% (IDVET). Cutt off values indicated by purple horizontal lines = 20% and 30% (Institut Pourquier). LAB5 used instead the cutt off value 40% for that ELISA.



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