



Serological diagnosis of Cattle Brucellosis

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ST and CFT components

No	Name of components	CFT	ST
1	Test serum	+	+
2	Antigen	+	+
3	Complement	guinea pig (complement)	cattle (complement+conglutinin)
4	Hemolysin	double titer	triple titer
5	Sheep red blood cells, %	2,5	2

The aim of the research

- Tests of diagnostic values of serological methods (ST, AT, RBPT, CFT, ICA, and ELISA) in the diagnosis of cattle brucellosis in farms and localities that are not affected by this disease, where animals were not subjected to anti-brucellosis vaccinations.
- AT - agglutination test
- RBPT - Rose Bengal plate test
- CFT - Complement fixation test
- ICA - immunochromatographic analysis
- ST - Saiduudin test
- ELISA - enzyme immunoassay

Materials and methods

- 310 blood sera of cattle aged 1 year and older
- RBPT, AT, and CFT for brucellosis were performed according to the existing guidelines.
- ST - also according to the manual on the formulation and accounting of the Saidouldine test (ST) in the diagnosis of bovine brucellosis. For a positive result of ST, the titers of 1:5 in four crosses and above were taken.
- All blood sera were examined up to the maximum antibody titer.
- We used the ICA kit for detecting antibodies to the brucellosis pathogen "Bru Ltflow Ab" (UAB "LT Biotech" I. K. 302303586 Rugia 21-24, LT-08419, Vilnius Reg. Nr. 127918, V. I. Registru centras Vilnius filialas), as well as B. brucella Ab ELISA (Anigen enzyme immunoassay kit for the presence of antibodies to Brucella. South Korean-made Bio Note 22 Samsungpro 4-gil, Hwaseong-si, Gyeonggi-do 445-170 Republic of Korea).
- Statistical processing of the results of serological studies was carried out according to the method of T. Saidouldin.

Research results and discussions

Table 1 - Results of serological studies of cattle blood sera for brucellosis

Total investigat ed	Positive results						
	CFT	RBPT	AT	Total CFT+RBPT+AT	ICA	ELISA	ST
310	20	16	9	22	19	26	27

Table 2 - Confirmation of ST results by other serological reactions

Results of ST		Results				
Antibody titer	Quantity	CFT	RBPT	AT	ICA	ELISA
1:10	2	-	-	-	-	1
1:20	6	1	2	-	2	6
1:40	6	6	4	-	4	6
1:80	3	3	1	1	3	3
1:160	4	4	3	2	4	4
1:320	5	5	5	5	5	5
1:640	1	1	1	1	1	1
Total	27	19	16	9	19	26

Table 3 - Results of the level of anti-brucellosis antibodies in serological reactions

№	Results					
	ST	CFT	RBPT	AT	ICA	ELISA
1	1:320	1:80	+	1:400	4+	1:800
2	1:160	1:40	-	-	4+	1:200
3	1:20	-	-	-	-	1:50
4	1:20	-	+	-	2+	1:50
5	1:40	1:10	+	-	-	1:100
6	1:80	1:20	-	-	2+	1:200
7	1:40	1:10	-	-	3+	1:100
8	1:160	1:40	+	1:200	4+	1:400
9	1:20	1:10	-	-	-	1:50
10	1:10	-	-	-	-	-
11	1:20	-	+	-	2+	1:50
12	1:80	1:20	-	-	2+	1:200
13	1:320	1:80	+	1:400	4+	1:800
14	1:160	1:40	+	1:200	4+	1:400
15	1:40	1:10	+	-	-	1:100
16	1:20	-	-	-	-	1:50
17	1:40	1:10	+	-	2+	1:100
18	1:10	-	-	-	-	1:50
19	1:640	1:80	+	1:200	3+	1:800
20	1:320	1:80	+	1:200	4+	1:800
21	1:40	1:20	+	-	3+	1:200
22	1:320	1:40	+	1:100	3+	1:400
23	1:80	1:80	+	1:200	4+	1:200
24	1:320	1:80	+	1:100	4+	1:400
25	1:20	-	-	-	-	1:50
26	1:160	1:20	+	-	4+	1:200
27	1:40	1:10	-	-	2+	1:50
Middle Title	1:260 (+22,3; -18,2)	1:15 (+18,1; -15,3)		1:50 (+14,1; -12,3)		1:150 (+18,1; -15,3)

thank you for attention

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