

Table S1. Total number of tested and proportion of Q fever positive sheep by ELISA and PCR in infected and non-infected control flocks.

Flock ID	Tested flocks		No. of tested sheep (% of positive)				
	ELISA	PCR	ELISA (Serum)	PCR (Aborted materials)	PCR (Vaginal swabs)	PCR (Faecal)	PCR (Milk)
I. Flocks with cases (n = 25)							
2	+	+	20 (15.0)	0 (0.0)	2 (100.0)	0 (0.0)	3 (0.0)
3	+	+	20 (30.0)	1 (100.0)	5 (60.0)	0 (0.0)	2 (0.0)
6	+	+	40 (20.0)	1 (100.0)	2 (50.0)	3 (66.7)	4 (25.0)
8	+	+	35 (28.6)	2 (100.0)	5 (60.0)	2 (50.0)	3 (66.7)
11	+	+	80 (27.5)	3 (100.0)	6 (66.7)	5 (40.0)	4 (25.0)
13	+	+	20 (45.0)	2 (100.0)	6 (33.3)	2 (0.0)	2 (0.0)
15	+	+	60 (23.3)	2 (100.0)	5 (60.0)	4 (25.0)	3 (33.3)
18	+	+	75 (30.7)	1 (100.0)	3 (100.0)	3 (33.3)	3 (33.3)
19	+	+	10 (60.0)	1 (100.0)	3 (66.7)	1 (100.0)	0 (0.0)
20	+	+	100 (20.0)	1 (100.0)	4 (50.0)	3 (0.0)	4 (50.0)
22	+	+	85 (22.4)	2 (100.0)	5 (60.0)	3 (33.3)	3 (33.3)
27	+	+	55 (14.5)	1 (100.0)	4 (25.0)	2 (0.0)	4 (0.0)
28	+	+	130 (23.1)	1 (100.0)	4 (25.0)	3 (0.0)	6 (16.7)
30	+	+	15 (40.0)	1 (100.0)	4 (25.0)	3 (0.0)	3 (0.0)
36	+	+	25 (28.0)	1 (100.0)	3 (100.0)	3 (0.0)	3 (0.0)
37	+	+	110 (23.6)	3 (66.7)	5 (40.0)	4 (50.0)	4 (50.0)
39	+	+	20 (25.0)	1 (100.0)	5 (40.0)	4 (0.0)	5 (0.0)
41	+	+	150 (16.0)	2 (100.0)	5 (100.0)	5 (40.0)	6 (33.3)
43	+	+	40 (20.0)	0 (0.0)	3 (33.3)	4 (0.0)	4 (25.0)
44	+	+	80 (13.8)	1 (100.0)	4 (50.0)	5 (40.0)	5 (0.0)
45	+	+	140 (19.3)	2 (100.0)	4 (50.0)	5 (20.0)	5 (40.0)
46	+	+	100 (14.0)	1 (100.0)	5 (20.0)	4 (25.0)	5 (0.0)
48	+	+	50 (30.0)	3 (0.0)	7 (57.1)	4 (50.0)	4 (100.0)
49	+	+	60 (15.0)	1 (100.0)	3 (100.0)	6 (16.7)	6 (16.7)
50	+	+	90 (23.3)	2 (100.0)	4 (100.0)	4 (25.0)	4 (25.0)
Total	25 (100.0)	25 (100.0)	1610 (21.8)	36 (88.9)	106 (56.6)	82 (25.6)	95 (25.3)
II. Control flocks (n = 25)							
1	–	–	10 (0.0)	0 (0.0)	1 (0.0)	0 (0.0)	1 (0.0)
4	–	–	20 (0.0)	0 (0.0)	2 (0.0)	0 (0.0)	3 (0.0)
5	+	–	25 (6.7)	0 (0.0)	3 (0.0)	0 (0.0)	3 (0.0)
7	–	–	40 (0.0)	2 (0.0)*	3 (0.0)	1 (0.0)	3 (0.0)

9	—	—	30 (0.0)	0 (0.0)	3 (0.0)	2 (0.0)	2 (0.0)
10	—	—	40 (0.0)	2 (0.0)*	5 (0.0)	2 (0.0)	5 (0.0)
12	+	—	24 (16.7)	0 (0.0)	3 (0.0)	2 (0.0)	3 (0.0)
14	—	—	19 (0.0)	2 (0.0)*	3 (0.0)	2 (0.0)	2 (0.0)
16	—	—	45 (0.0)	0 (0.0)	2 (0.0)	2 (0.0)	2 (0.0)
17	—	—	15 (0.0)	0 (0.0)	3 (0.0)	3 (0.0)	2 (0.0)
21	—	—	50 (0.0)	1 (0.0)*	3 (0.0)	2 (0.0)	3 (0.0)
23	+	—	30 (20.0)	0 (0.0)	3 (0.0)	3 (0.0)	4 (0.0)
24	—	—	30 (0.0)	0 (0.0)	2 (0.0)	2 (0.0)	2 (0.0)
25	—	—	25 (0.0)	0 (0.0)	3 (0.0)	2 (0.0)	3 (0.0)
26	—	—	45 (0.0)	0 (0.0)	3 (0.0)	2 (0.0)	3 (0.0)
29	—	—	25 (0.0)	0 (0.0)	3 (0.0)	3 (0.0)	3 (0.0)
31	—	—	10 (0.0)	2 (0.0)*	2 (0.0)	2 (0.0)	3 (0.0)
32	—	—	50 (0.0)	0 (0.0)	3 (0.0)	3 (0.0)	3 (0.0)
33	+	—	60 (6.7)	0 (0.0)	2 (0.0)	2 (0.0)	2 (0.0)
34	—	—	20 (0.0)	0 (0.0)	2 (0.0)	2 (0.0)	2 (0.0)
35	+	—	34 (11.8)	0 (0.0)	3 (0.0)	3 (0.0)	3 (0.0)
38	—	—	50 (0.0)	2 (0.0)*	3 (0.0)	3 (0.0)	3 (0.0)
40	—	—	35 (0.0)	1 (0.0)*	2 (0.0)	3 (0.0)	3 (0.0)
42	+	—	30 (10.0)	1 (0.0)*	3 (0.0)	3 (0.0)	3 (0.0)
47	+	—	65 (7.7)	1 (0.0)*	2 (0.0)	3 (0.0)	3 (0.0)
Total	25 (28.0)	25 (0.0)	827 (3.3)	14 (0.0)	67 (0.0)	52 (0.0)	69 (0.0)

* Vaginal secretion samples from sheep with no history of recent abortion.

Table S2. Management practices of Q fever infected and non-infected control flocks in Eastern Province, Saudi Arabia.

Factors	No. of infected (cases = 25) flocks	No. of non-infected (control = 25) flocks
Flock size		
Small <290	9	16
Medium (290-500)	10	9
Large >500	6	0
Purchase of breeding replacement		
No	5	12
Yes	20	13
Quarantine of purchased animals		
No	20	17
Yes	5	8
Animal exchange during breeding		
No	4	18
Yes	21	7
Contact with other sheep flocks		
No	6	14
Yes	19	11
Contact with other animals		
No	2	7
Yes	23	18
Lambing pen		
No	16	9
Yes	9	16
Recent history of abortion		
No	0	25
Yes	25	0
Change bedding after removing aborted materials		
No	17	8
Yes	8	17
Disinfect bedding after abortion		
No	22	11
Yes	3	14

Isolate aborted ewes		
No	17	15
Yes	8	10
Ticks on animals		
No	11	19
Yes	14	6
Ticks in environment		
No	14	23
Yes	11	2
Manure spreading		
No	6	14
Yes	19	11
History of Q fever		
No	21	25
Yes	4	0
