

Table S1. Description and categories of the collected variables.

Factors	Sheep			Goats		
	Categories	Frequency	%	Categories	Frequency	%
Age						
	<1.4 year	448	26.1	≤2 year	564	51.2
	1.4 – 2.8 years	876	51.0	>2 year	537	48.8
	≥ 2.8 years	393	22.9			
Sex						
	Male	127	7.4	Male	176	16.0
	Female	1590	92.6	Female	925	84.0
Breed						
	Awassi (Naeimi)	689	40.1	Aradi	459	41.7
	Najdi	452	26.3	Damascus	301	27.3
	Sawakin	181	10.5	Mixed	341	31.0
	Mixed	395	23.1			
Flock size						
	Small (≤200)	494	28.8	Small (≤200)	328	29.8
	Large (>200)	1223	71.2	Large (>200)	773	70.2
Season						
	Summer	322	18.7	Summer	140	12.7
	Winter	710	41.4	Winter	524	47.6
	Spring	400	23.3	Spring	236	21.4
	Autumn	285	16.6	Autumn	201	18.3
Recent history of abortion						
	No	1470	85.6	No	1075	97.7
	Yes	247	14.4	Yes	26	2.3
Introductions of new sheep to the flock						
	No	1054	61.4	No	888	80.7
	Yes	663	38.6	Yes	213	19.4
Mixed breeding farm						
	No	1421	82.8	No	818	74.3
	Yes	296	17.2	Yes	283	25.7
Farm hygiene						
	Bad	1475	85.9	Bad	769	69.9
	Good	242	14.1	Good	332	30.2

History of previous treatment					
No	1468	85.5	No	1070	97.2
Yes	249	14.5	Yes	31	2.8
Type of breeding system					
Closed	850	49.5	Closed	1002	91.0
Open	867	50.5	Open	99	9.0
Sheep exchange during breeding					
No	567	33.0	No	421	38.3
Female out	295	17.2	Female out	290	26.3
Female in	855	49.8	Female in	390	35.4
Vaccine type					
Clostridia (C) only	240	14.0	Clostridia (C) only	133	12.1
Pasteurella (P) only	158	9.2	Pasteurella (P) only	99	9.0
C + P	589	34.3	C + P	164	14.9
C + P + PPR	730	42.5	C + P + PPR	705	64.0
Total	1717			1101	